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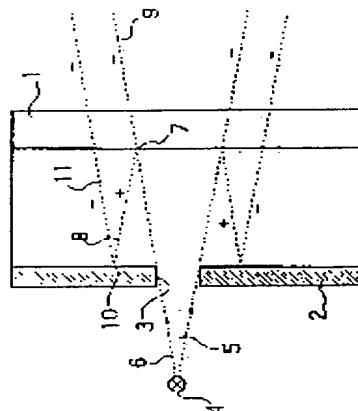
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(54) POLARIZER

(57)Abstract:

PURPOSE: To make it possible to take out  $\square$ 50% of incident light in the form of polarized light by providing a polarizer with a cholesteric liquid crystal layer having a Grandjean structure and a mirror which reverses the rotating direction of circularly polarized light.

CONSTITUTION: The polarizer has the cholesteric liquid crystal layer 1 and the liquid crystals have the Grandjean structure. The molecules of the liquid crystal are oriented substantially in plane by suitable boundary conditions. The ordinary mirror 2 which constitutes an orifice plate 3 is arranged apart a specified distance in parallel with the liquid crystal layer 1. The luminous flux 5 from a monochromatic light source 4 can enter the device through the orifice. As a result, not only the sharp transmutability but the flat transmittability may be embodied by using the operation mode by the linearly polarized light and the operation mode by the circularly polarized light.



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